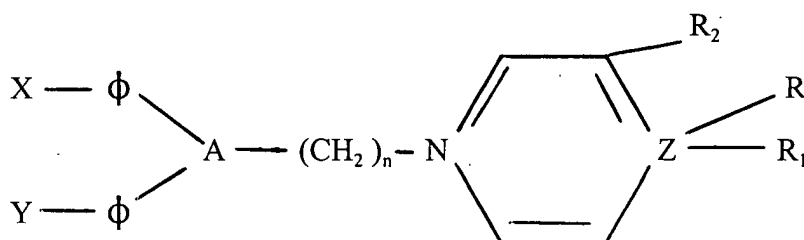


1. (Currently Amended) A [piperazine or] piperidine dopamine, norepinephrine or serotonin ligand having the formula:

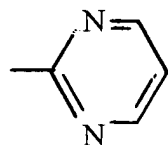
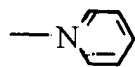
Formula I



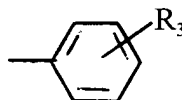
wherein:

A is oxygen or nitrogen; n is an integer of 2 to 6; X and Y can be the same or different and are hydrogen, halogen, nitro, alkyl or halalkyl, Z is carbon [or nitrogen]; and ϕ is phenyl[,] or naphthyl[, thienyl or pyridinyl];

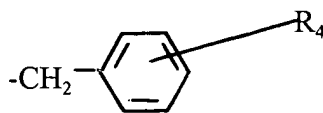
[when Z is carbon,] R is hydrogen, cyano, hydroxy, $-\text{COOCH}_3$, $-\text{CH}_2\text{OH}$ or $-\text{COOH}$; R₁ is 4-fluorophenyl, 4-chlorophenyl, 4-trifluoromethyl-3-chlorophenyl, 4-bromophenyl, 4-(2-keto-1-benzimidazoliny) or 1-phenyl 1, 3, 8-triazaspiro [4,5] decan-4-one [and when Z is nitrogen, R and R₁ combined are



or



wherein R₃ is halo, alkyl, cyano or nitro and] R₂ can be hydrogen or



wherein R₄ is halo, alkyl, cyano, nitro, alkylanyl or alkenyl.

2. (Original) A compound of the formula :



3. (Canceled)

4. (Canceled)

5. (Currently Amended) The compound of any one of claims 1[, or 2[, 3 or 4] which is labeled with a radionuclide.

6. (Original) The compound of claim 5 wherein said radionuclide is ^{99m}Tc .

7. (Original) The compound of claim 5 wherein said radionuclide is an iodine isotope.

8. (Original) The method for imaging dopamine neurons in a mammal which comprises:

administering to the mammal an imaging dose of the compound of claim 1 labeled with a radionuclide and
detecting binding of the compound in the mammal.

9. (Original) The method for imaging dopamine neurons in a mammal which comprises:

administering to the mammal an imaging dose of the compound of
claim 2 labeled with a radionuclide and

detecting binding of the compound in the mammal l.

10. (Canceled)

11. (Canceled)

12. (Original) The method for imaging dopamine neurons in a mammal
which comprises:

administering to the mammal an imaging dose of the compound of
claim 1 labeled with a radionuclide and

detecting binding of the compound in the mammal.

13. (Original) The method for imaging dopamine neurons in an animal
which comprises:

administering to the mammal an imaging dose of the compound of
claim 2 labeled with a radionuclide and

detecting binding of the compound in the mammal.

14. (Canceled)

15. (Canceled)

16. (Original) The method of treating an mammal afflicted with a
neurodegenerated disease characterized by a degeneration of dopamine neurons
which comprises:

administering to the mammal an effective amount of the compound